Lithium-Polymer Battery Product Specifications

PBT-LIP-01

Overview

The Pliant PBT-LIP-01 2000mAh Lithium-Polymer rechargeable/removable battery is compatible with all Tempest® BeltStations and CrewCom® Radio Packs. One PBT-LIP-01 comes standard with each Tempest BeltStation or CrewCom Radio Pack. When ordering, reference Part Number PBT-LIP-01.

Specification*	Lithium-Polymer Battery
Physical	
Dimensions (L x W x H)	43mm (1.69 in) x 16mm (0.62 in) x 52mm (2.04 in)
Weight	Approx 48 g (1.69 oz)
Electrical	
Rated Capacity	2000 mAh typical
Nominal Voltage	3.7 VDC
Charging Method	Constant Current + Constant Voltage
Max Charge Voltage	4.20 VDC
Max Continuous Discharge Current	1000 mA
Rec Charge Cut-Off	40 mA or 5 hours
Internal Impedance	Approx<180 m£
Expected Cycle Life	> 500 cycles> 70% of initial capacity (0.5C/0.5C)
Over-charge Detection	4.325 VDC ± 25 mV 960–1400 mS delay, resume @ remove charger & discharge current
Over-discharge Detection	2.50 VDC ± 0.5V 115–173 mS delay, resume @ charging current
Over-current Detection	2.1 A to 5.5 A (7.2 to 11 mS delay)
Short-circuit Detection	MAX 320 mS
Ambient Conditions	
Charge Temperature Range	0 to +45°C
Discharge Temperature Range	-20 to +60°C
Charge Retention/Storage Temperature Range	1 year at -20 to +20°C > 80% 3 month at -20 to +45°C > 80% 1 month at -20 to +60°C > 80%
Humidity	10 to 90% non-condensing

General Information

Under normal operating conditions the battery should last in excess of nine hours. The battery is equipped with onboard fuel gauge technology that ensures the battery indication on the BeltStation is as accurate as possible at all times. The battery comes with onboard protection circuitry to protect against overcharge and over discharge conditions.

All rechargeable batteries degrade over time with normal use (charging and discharging repeatedly). The total capacity of a battery gradually decreases with each charge/discharge cycle until it is small and unusable. A full charge cycle is one in which the battery is completely discharged and then charged back up to full.

If a battery is at 50% charge and then is recharged to full, that would be considered one half of a charge cycle. Given this principle, there is no disadvantage to charging this battery at whatever discharge level it may currently hold. Topping off batteries that are 80% charged, for instance, would only count as 20% of a charge cycle, so don't hesitate to put the battery in the charger at any point to top it off.

When these batteries are stored, two things happen; first, their charge level gradually falls over time due to internal self discharge.

Second, and much more importantly, the total capacity of the battery may be reduced if the battery charge level during storage is too high or too low. It is recommended to store batteries at 40 to 50% charge level when storing them for more than two weeks; this will minimize any permanent capacity loss during storage.

The rate of degradation of Lithium-Polymer batteries is strongly temperature-dependent; they degrade much faster if stored or used at higher temperatures. Elevated temperatures (whether from charging or ambient air) hasten capacity loss. Poor ventilation may increase temperatures, further shortening battery life.

As Lithium-Polymer batteries age they may swell to some degree. This swelling is an indication of a battery that has gone beyond its useful life and needs to be replaced. Batteries that appear swollen or deformed should never be used. In addition, a battery that does not fit properly into the battery compartment or that has had its housing damaged should not be used and should be disposed of properly.

PBT-LIP-01 Battery

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* Notice About Specifications: While Pliant makes every attempt to maintain the accuracy of the information contained in this document, this information is subject to change without notice. Please check our website for the latest system specifications and certifications.

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